Chapter II
MIND AND BODY

WHAT, then, is mind, and where is it? What does it do, and how does it do it? In short, what is that mental process which we call *knowing* or learning? What mind *is* no one knows, perhaps no one will ever know. The psychologist does not speculate about the nature of mind; he busies himself only with its processes, which he can observe.

21. But although we do not know what mind *is*, we all know what we mean when we use the word. None of us doubts the existence of a part of us which thinks and feels, remembers and forgets, prompts one action and arrests another. A something which is not the bodily Me, but a still more intimate Me, and which, moreover, seems to direct and control the bodily Me. Our everyday language takes mind for granted. We 'change our mind'; we have 'half a mind' to do so and so; we keep a thing 'in mind.' The word and its accompanying idea are quite familiar; but though we have a sufficient notion of its meaning for everyday use, it is a very indefinite notion, and psychologists do not attempt to define it. Let us see what they say about it.

'We cannot give any scientific account of mind, but we can specify three of its functions: Feeling, Will or Volition, and Thought or Intellect, through which all our experiences are built up.'—*Bain.*

'Mind is the sum of our processes of knowing, our feelings of pleasure or pain and our voluntary doings.' —*Sully*

'The elementary facts of mind cannot be expressed in less than three propositions: "I feel somehow, I know something, I do something." '—*Ward.*

'The powers of the mind may be arranged in three classes: Intellect (the powers by which we know), Sensibility or the Emotions (the powers by which we feel), and Will (the power to choose and execute).'—*Hewett.*

'Mind is that force which manifests itself in knowing, feeling, and willing.'—*Roark.*

22. Some psychologists prefer the term *Consciousness* to Mind, treating them as equivalent terms.

'Mind is consciousness, from its lowest manifestation in animals to its highest in man.'—*Laurie.*

'By consciousness we mean "Mind *now*; the mind of the present moment." '—*Titchener.*

But Professor Lloyd Morgan points out that—

'Whatever the mind may be as an existent reality, . . . it is wider, fuller, richer, than any given field of consciousness'

Using the term *Consciousness* does not get us much further, for we cannot explain what that is; though, like mind, we know quite well what we mean by it.

Again, you will sometimes find the term 'Soul' used in the sense of 'Mind' and as an equivalent for it.

'The soul is the I, myself, of each individual; that which knows, and feels, and wills.'—*Putnam.*

'The word "soul" is not used in its narrow theological meaning, but is held to include all the higher parts of the child's nature: his knowings and feelings, wishings and willings.'—*Adams* on *Herbart.*

23. What these writers say is practically this: We cannot say what mind *is*, for we only know

it through its manifestations, activities, or 'states'; but we find that all our mental experiences fall into three classes. The mind is always knowing something, feeling somehow, prompting or checking some action. Never one of these alone, though one may seem more prominent than another, but all three together. By the recurrence of these three terms in the passages quoted you will already have concluded that psychologists—who, like doctors, differ about many things—are practically agreed upon this classification, and tell us that mind is *that part of us which knows and feels and wills.*

24. This way of describing mind may seem to you at the first glance to have little to do with your work as teachers. But look at it more closely, and you will find that its suggestions cover the whole field of education. For what do we desire to do for our children? To give them *knowledge*; to put before them ideals of truth and goodness, that their *feelings and desires* may be in the direction of what is best in life; to train their *wills*, so that they may choose to do, and be able to do, what knowledge and feeling pronounce to be right. It might well be summed up in the words of the old Collect: 'That they may perceive and *know* what things they *ought* to do (feeling) and also may have grace and power faithfully *to fulfil* the same (action).'

25. I find that the term *willing* gives students a little trouble, possibly because this technical use of it and our everyday use of it are somewhat different. In a declaration of willingness we very often feel an undercurrent of *un*-willingness.

When a person says 'I am willing' to do so and so, we generally understand that on the whole he would rather not. But *willing*, as the psychologist uses it, includes the idea of action. You can trace this in the doings of little children who have not yet learnt self-control. A child sees a cake on the table The *knowing* that it is there gives him a *feeling* of pleasure; the feeling becomes *desire*, which again passes over into *action*. The child *wills* to possess the cake, puts out his hand and takes it. Perhaps a part of the difficulty arises from the fact that after early childhood so much of our own tendency to action is inhibited, or checked, by training and custom, until the veriest ghost of an idea is sufficient to inhibit an action. But though the grown-up person does not snatch at the desirable cake, the tendency is there all the same. The less familiar term, *Conation*, seems to be less perplexing to students, as we do not use it in any other sense, and conation means a tendency to act, or to attempt to act.

26. Although in the process which we call education we include the training of the whole child—his intellect, his feelings, and his will—yet when we speak of teaching him we find ourselves thinking of his intellect alone. When knowledge is the end in view the knowing powers are the all-important, and so mind has come to have a technical meaning which limits it to the intellectual or knowledge-getting part of us.

27. It may be well, just here, to give the three equivalent terms for those we have been using, which some writers use by preference:

Knowing.	Feeling.	Willing.
Cognition.	Emotion.	Conation.

28. The next question is, 'Where is Mind?' In our everyday language we localize mind. We say of a clever person that he has a good *head*, of a silly one that he is empty-*headed*; and though phrenology, as a science of bumps, may be discredited, there is no doubt that a well-shaped head attracts and an ill-shaped head repels us. We associate the one with intellect and refinement, the other with stupidity and grossness.

29. We localize still more definitely when we talk of puzzling our *brains* over a problem, or say of a person that he has plenty of *brain*-power. And yet the answer to the 'where?' is the same as to the 'what?' *We do not know.* All that we know is that between brain processes and mental processes there is a close correspondence; that on the health of the one depends to a great extent the health of the other; that when something happens in the one something also happens in the other. Why it happens, or what the connection is, has not been discovered, but enough is known to prove that in some mysterious way the brain is the instrument through which the mind does its thinking and reasoning and remembering and other things.

30. Because this is so, the teacher should know something about physiology—the physiology of the nervous system, which is the part of the subject that chiefly concerns us as teachers. Fortunately a great amount of such knowledge is not necessary for teaching purposes, but there are certain facts

about mental processes and physical processes the knowledge of which is of very great practical use to the teacher. For body and mind act and react on each other in a curiously close and intimate manner; and although the comparison of bodily and mental processes may not explain such action and reaction, it will give us a notion of when to expect a reaction and how to control it. This knowledge is of the first importance to you teachers, whether you are dealing with your pupils' minds in giving them musical knowledge, or with their bodies in teaching them skill in the use of an instrument. For example—

31. (*a*) If a teacher knows that of the whole blood supply of the body about one-sixth is needed for the upkeep of the brain, she will not expect the same amount of mental activity from an anæmic or ill-nourished child as from a physically healthy one.

32. (*b*) If she knows that for a supply of healthy blood to the brain the worker needs a good supply of oxygen, she will not teach in close and stuffy rooms, if she can help it.

33. (*c*) If she knows that the blood supply goes to the place where work is going on, she will not, if she can help it, give a lesson immediately after the pupil has had a full meal and the body is attending to the process of digestion.

34. (*d*) If she knows that during mental work there is an actual *using up* of brain tissue, she will understand that children should have periods of rest between lessons to repair the waste, and that a tired brain does not learn.

35. (*e*) If she knows that bodily discomfort interferes with mental work, she will see that the child is comfortably seated, and not suffering, for instance, from cold hands and feet.

36. (*f*) If she knows that when the body is growing very fast the brain should have comparative rest, she will make allowance for some degree of mental laziness during the growing spurts, and will understand why the long-legged spidery child is a less satisfactory pupil than the compactly built little person who is doing her growing more gradually.

37. (*g*) If she knows that nervous disturbance is fatal to clear thinking, she will not irritate her pupil or reduce her to tears, for that will prevent any good work being done.

38. (*h*) If she knows how the nervous system directs and controls the muscular system, she will have a better chance of success in teaching pianoforte or other instrumental work.

39. Perhaps we hardly realize how much of our knowledge of one another we owe to the action and reaction between body and mind. The only way in which we can know the mind of another is through some bodily manifestation: a spoken word, an act, an attitude, an expression of countenance. A smile or a frown—what are they? Physically considered, only a pucker in one part of the face or another. Considered as indications of mental states they have a deep and widely different significance. We are apt to think about mind communicating with mind by speech only, and to forget how much we owe to look and

gesture. Sometimes, indeed, the body insists on expressing what the word was meant to conceal.

40. We can even read a dog's mind from attitude and movement—though he does not help us much by facial expression. Watch him as he lies dozing. A noise disturbs him. He lifts one ear, and then his head; then he jumps up and stands in an unmistakable attitude of attention—paw lifted, tail stiffened, ears cocked in the act of listening. You can almost hear him ask, 'What's that?' and you can mark the precise moment when he answers the question to his own satisfaction; either darting off after the suspected cat, or lying down with an air of detachment which says very plainly ' 'Tis nothing that concerns me.' Here we have some signs of knowing, feeling, and willing in the animal mind.

41. If you would cultivate that skill in mind-reading which is so necessary to the teacher, begin by watching a young child *who cannot talk to you.* And later on, during his first four or five years, you will find that a child's acts and looks will tell you more about his inner life than his halting attempts at verbal expression.

42. The teacher who observes narrowly and compares carefully will become in some sort a thought reader. Not all in the same degree, for insight is partly a gift. But, with keen observation and the desire to help, it is certain that some insight will come; it is indeed surprising how much does come. The more we observe, the more we are able to observe.

43. It is also useful for the teacher to remember

that the thought-reading is not all on one side. Your small pupil, who looks up at you so innocently when you put a question to him, is scanning your face for a clue, and will often hazard a guess on what he fancies he reads there. So, if you would make him use his own wits, you must be able to assume at will the stony countenance that denies assistance to the mere guesser. The studied blankness that is familiar to you on the face of the experienced doctor—or the musical critic at a concert.

44. Some teachers deliberately try to help small children to an answer by suggestive facial expression and by gestures, but it is not well to do that in any case, for children learn to wait for the suggestive look or movement, and do not use their own wits. If the question is one that the pupil ought to be able to deal with in the light of his own knowledge, he should be allowed to deal with it. If it is not, then for him it is a wrong question altogether.

45. But we have not yet answered the question, 'What is the process which we call knowing or learning?' How does the brain, inside its small dark box, communicate with the great world outside, and gather in the knowledge with which the mind has to be nourished and exercised?

46. Probably most of you are familiar with statements like these: 'The mind gets all its knowledge through the senses.' 'There is nothing in the mind which was not first in the senses.'

47. We all know what is meant by the senses: Sight, Hearing, Touch, Taste, Smell. And by the

sense organs: Eye, Ear, Skin, Tongue, Nose. But this does not take us very far. The sense organ is only one end of the story; and as a matter of fact it is not the eye which sees the landscape, but the brain; not the ear which hears the skylark, but the brain; not the skin which feels the burn, but the brain; not the foot that knows when there is a pebble in the boot, but the brain. How does this come about? How, for instance, does the fact of the pebble in the boot travel from the foot to the brain? By that marvellous telegraphic installation which each one of us carries about in his own body; without which that body would be an inert mass, and mind, as we know it, would not exist at all. I mean the nervous system.

48. It may be well to spend a little time just here in speaking about this human telegraph. Some of my readers probably know all about the nervous system from their physiology lessons at school, but may not have thought about it in this connection, though the comparison has been often suggested. Others may not know anything about it, so for their sakes we will glance over the whole subject, comparing very roughly what we know of the nervous system with what we know of the electric telegraph. Children who are old enough know what the telegraph wires are for, and to be familiar with the sending and receiving of telegrams by their elders, are much interested in hearing that they have something like that in their own bodies; and they will often repeat a movement of hand or finger for the sake of 'sending a message' which would bore them if it is called an exercise.

So the comparison may be of some practical use to you, besides helping to fix some facts that concern teaching.

49. We marvel at many things of man's invention. Some of the older folk of to-day can remember when the telegraph and the photographic camera were recent inventions, just a few years old. The mechanism of the pianoforte that we use every day is in itself a delicate and wonderful thing. But now, listen to this. Summing up Huxley's teaching about the eye, Titchener says—

'The best way to understand it is to think of it as a photographic camera. It has an automatic diaphragm, the iris, which regulates the opening of the pupil according to illumination. Behind the iris, in the pupil, is a lens which focuses automatically—not by coming forwards or retiring backwards, but by altering its curvature. Behind the lens is a dark chamber. The back wall of this chamber is covered by a sensitive film upon which visual images are formed. The film is self-renewing, so that images can succeed one another upon it very rapidly. The action of light upon it sets up processes of chemical decomposition, just as in the real photographic plate.'

50. Some of us have heard all that before; but this may not be so familiar—

'If the eye is a little camera, the ear is a tiny piano, a piano with a keyboard for the air to play upon, with 11,000 strings behind the keyboard, and with a damper to stop the movement of the strings after they have sounded. That is why we can speak so quickly: the sound of each word is damped before the next word comes.'

51. You see, Nature forestalled the modern inventor; did it all, and did it better, just a few

millions of years ago; gave us these things, and we carried them about with us and never knew, until patient scientists found out all about it and told us. Tell the children too, when they are old enough to understand and to wonder.